

We claim:

1. An assay for determining therapeutic activity of US28 receptor antagonists, comprising:

(a) obtaining and isolating smooth muscle cells into a first chamber of a migration device, wherein the first migration chamber comprises growth media chambers and is defined by a first side of a membrane and chamber walls, and wherein the migration device comprises a second chamber defined by the second side of the membrane and having an enclosed space;

(b) infecting the smooth muscle cells with human cytomegalovirus (HCVM) containing a gene encoding the US28 receptor;

(c) adding a candidate therapeutic agent to the first chamber; and

(d) determining the amount of cellular migration into the second chamber, whereby inhibition of cellular migration of infected smooth muscle cells indicates therapeutic activity.

2. The assay of claim 1 wherein the smooth muscle cells are isolated from pulmonary arteries.

3. The assay of claim 1 wherein the membrane has a pore size of from about 2 to about 10 microns.

4. The assay of claim 3 wherein the membrane pore size is about 3 microns.

5. The assay of claim 1 wherein the amount of cellular migration is determined by an assay for counting the number of smooth muscle cells in the second chamber wherein the assay for counting the number of smooth muscle cells is selected from the group consisting of microscopic cell counting per unit area, radiolabeling the smooth muscle cells and counting radioactivity in the second chamber, attaching a fluorescent probe to the smooth muscle cells and measuring fluorescence within the second chamber, and combinations thereof.

6. A method for treating atherosclerosis, restenosis, chronic rejection syndrome and graft versus host disease (GVHD), comprising administering an effective amount of an agent that is a US28 receptor antagonist, wherein a US28 receptor antagonist comprises an inhibitor compound that prevents transduction of US28 receptor signal stimulated by a US28 receptor ligand, wherein a US28 receptor ligand is selected from the group consisting of RANTES, MIP-1 α and MCP.

7. The method of claim 6 wherein the US28 receptor antagonist is selected from the group consisting of an antibody that binds to an extracellular portion of the US28 receptor, an antisense oligonucleotide having a nucleic acid sequence antisense to the US28 cDNA and inhibiting translation of US28 expression in infected smooth muscle cells, and the US28 receptor antagonist is selected from the group consisting of an antibody that binds to an extracellular portion of the US28 receptor, and a US28 binding antagonist, wherein the US28 binding antagonist is selected from the group consisting of KHSV encoded vMIP-2, fractalkine, and

herbimycin.

8. The method of claim 6 wherein the monoclonal antibody is chimeric or humanized by means for humanizing non-human antibodies.

5 9. The method of claim 6 wherein the US28 antisense sequences are selected from the group consisting of SEQ ID NOS. 2-28.

10. A method for enhancing cellular migration, comprising infecting a cell with a viral nucleic acid containing a gene encoding CVM US28 receptor or transfecting a cell with a vector comprising the cDNA sequence for US28 operably linked to a viral promoter sequence, and stimulating the transfected or infected cell with a US28 receptor ligand, selected from the group
10 consisting of RANTES, MIP-1 α and MCP1.

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